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2814

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RESPONSE UNDER RULE 116
EXPEDITED HANDLING PROCEDURES

In re Patent Application of Atty Dkt. 160-356
C# M#

NAKAMURA et al. Group Art Unit: 2814

Serial No. 09/809,038 Examiner: Louie, W.

Filed: March 16, 2001 Date: July 31, 2003

Title: NITRIDE SEMICONDUCTOR LIGHT-EMITTING DEVICE

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE/AMENDMENT/LETTER

This is a response/amendment/letter in the above-identified application and includes an attachment which is hereby incorporated by reference and the signature below serves as the signature to the attachment in the absence of any other signature thereon.

☐ **Correspondence Address Indication Form Attached.**

Fees are attached as calculated below:

Total effective claims after amendment **3** minus highest number previously paid for **20** (at least 20) = 0 x $ 18.00	$	0.00
Independent claims after amendment **2** minus highest number previously paid for **3** (at least 3) = 0 x $ 84.00	$	0.00
If proper multiple dependent claims now added for first time, add $280.00 (ignore improper)	$	0.00
Petition is hereby made to extend the current due date so as to cover the filing date of this paper and attachment(s) ($110.00/1 month; $410.00/2 months; $930.00/3 months)	$	110.00
Terminal disclaimer enclosed, add $ 110.00	$	0.00
☐ First/second submission after Final Rejection pursuant to 37 CFR 1.129(a) ($750.00) ☐ Please enter the previously unentered , filed ☐ Submission attached	$	0.00
Subtotal	$	**110.00**
If "small entity," then enter half (1/2) of subtotal and subtract ☐ Applicant claims "small entity" status. ☐ Statement filed herewith	-$	0.00
Rule 56 Information Disclosure Statement Filing Fee ($180.00)	$	0.00
Assignment Recording Fee ($40.00)	$	0.00
Other:		**0.00**
TOTAL FEE ENCLOSED	$	**110.00**

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140. A duplicate copy of this sheet is attached.

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NIXON & VANDERHYE P.C.
By Atty: Arthur R. Crawford, Reg. No. 25,327

Signature: _____

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

NAKAMURA et al. Atty. Ref.: 160-356; Confirmation No. 5596

Appl. No. 09/809,038 Group: 2814

Filed: March 16, 2001 Examiner: Louie, W.

For: NITRIDE SEMICONDUCTOR LIGHT-EMITTING DEVICE

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July 31, 2003

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

AMENDMENT

Applicants hereby submit this in response to the Office Action mailed April 3, 2003 ("Office Action").

A response to the Office Action was originally due July 3, 2003. Applicants hereby petition for a one-month extension of time in which to submit a response or an amendment in response to the Office Action. The fee for a one-month extension of time is $110 and a check in that amount is enclosed. Therefore, the deadline for responding to the Office Action is now August 3, 2003. Accordingly, this Amendment and Response is being timely filed.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.-63. Canceled.

64. (Currently Amended) A nitride semiconductor light-emitting device comprising:

an n-type layer comprising an n-type GaN or and n-type nitride semiconductor containing indium and gallium;

a first p-type clad layer comprising a p-type ~~nitride semiconductor~~ InGaN containing indium and gallium;

an active layer, provided between said n-type and p-type nitride semiconductor layers, having a multi-quantum well structure having a well layer comprising a nitride semiconductor represented by $In_xGa_{1-y}N$, $0 \leq y < 1$;

a second p-type clad layer made of a p-type ~~nitride semiconductor~~ AlGaN containing Al and Ga provided over said first p-type clad layer; and

a p-type contact layer formed of a p-type GaN provided over said second p-type clad layer.

65. Canceled.

66. (Previously Presented) The device according to claim 71, further comprising a p-type contact layer formed of a p-type GaN provided over said second p-type clad layer, and an n-type contact layer formed of an n-type GaN and over which said second n-type clad layer is provided.

67-70. Canceled.

71. (Currently Amended) A nitride semiconductor light-emitting device comprising:

a first n-type clad layer comprising an n-type nitride semiconductor containing indium and gallium;

a first p-type clad layer comprising a p-type ~~nitride semiconductor~~ InGaN containing indium and gallium;

an active layer provided between said first n-type and p-type clad layers and having a multi-quantum well structure including a well layer comprising a nitride semiconductor represented by $In_xGa_{1-x}N$, where $0 < x < 1$, and a barrier layer comprising a nitride semiconductor represented by $In_yGa_{1-y}N$, where $0 \leq y < 1$;

a second n-type clad layer comprising an n-type nitride semiconductor containing aluminum and gallium, said second n-type clad layer having a larger band gap than said first n-type clad layer, said second n-type clad layer being provided over said first n-type clad layer; and

a second p-type clad layer comprising a p-type ~~nitride semiconductor~~ AlGaN containing aluminum and gallium, said second p-type clad layer having a larger band gap than said first p-type clad layer, and said second p-type clad layer being provided over said first p-type clad layer.